CHAPTER IV

RESULTS

The purpose of this research was to examine the behaviors of those responsible for administering antibiotics to children under their care. The children in question were all aged < 5 years, and attended the Outpatient Department of Wangwiset Hospital, Trang Province. Data for analysis were obtained from a questionnaire completed by a sample of 410 caretakers whose children were outpatients at the hospital. The results of the questionnaire can be divided into 7 parts, as follows:

Section1 General profile of the caretaker, considering factors such as age, marital status, highest level of education, occupation, total family income per month, number of family members, relationship between caretaker and child, and number of children each caretaker was responsible for. These are termed population characteristics.

Section2 Caretaker's knowledge of administering the antibiotic agent.

Section3 Caretaker's attitude towards administering the antibiotic agent.

Section4 Caretaker's behavior in relation to administering the antibiotic agent.

Section5 Relationships between population factors and knowledge and attitude.

Section6 Relationship between knowledge and behavior.

Section7 Relationship between attitude and behavior.

Section1 General profile of the caretakers

Most of the samples (84.7%) were aged 20-39 years, and very few were 50 years old or older. 89.8% were married, 76.6% had primary to secondary educations. Very few samples (5.8%) had lower than primary school educations or higher than bachelor degree. 71% were agriculturists, employees, and traders. The average family income was 3001-9000 Baht per month. Most of them (81.9%) had between

3-5 family members. 89.3% of the samples were in mother-and-child relationships, and 70% of them had 1 child under their care.

Table 4.1: Socio-demographic characteristics of caretakers, by number and percent

Socio-demographic characteristics	Number (n = 410)	Percent
Age (years)		
10-19	18	4.4
20-29	159	38.8
30-39	188	45.9
40-49	35	8.5
50-59	2	0.5
60 and above	8	2.0
Mean = 26.8, S.D. = 0.86, Range =14 –65		
Marital status		
Single	32	7.8
Married	368	89.8
Widowed/divorced/separated	10	2.4
Highest level of education		
< Primary school	12	2.9
Primary school	105	25.6
Secondary school	96	23.4
High school	113	27.6
Vocational	36	8.8
≥ Bachelor degree	48	11.7
Occupation		
Housekeeper	59	14.4
Wage earner	97	23.7
Business owner	91	22.2
Government employee	51	12.4
Company employee	9	2.2

Table 4.1: (Continued)

Socio-demographic characteristics	Number (n = 410)	Percent
Occupation		
Business owner	91	22.2
Government employee	51	12.4
Company employee	9	2.2
Total family income per month (Baht)		
Up to 3000	20	4.9
3001-6000	148	36.1
6001-9000	89	21.7
9001-12000	26	6.3
12001-15000	61	14.9
>15000	66	16.1
Relationship		
Parent	366	89.3
Relative	40	9.8
Baby sister	4	1.0
Number of children under each caretaker		
1	287	70.0
2	123	30.0

Section 2 Caretaker's knowledge of administering the antibiotic agent

The result of the study revealed that 100% of caretakers perceived that they had to shake the bottle before pouring the drug. 99.5% perceived that the drug should be kept in the medicine cupboard and that the drug should be administered strictly according to the label on the bottle. A third of caretakers (33.2%) perceived that post-meal drugs could be taken immediately after the meal. 55.4% of them had knowledge about what to do if they forgot to administer the drug at any meal. 62.7% of them perceived when they should stop drug administration.

Table 4.2: Caretakers' knowledge of drug administration

Knowledge of caretakers	Number (n=410)	Percent
1. The antibiotic is specifically for children	332	81.0
2. Read though the label before pouring the drug	344	83.9
3. Shake the bottle before pouring	410	100.0
4. Use cooled boiled water to mix the antibiotic	293	71.5
5. Mix the antibiotic with water in the same ratio	404	98.5
6. Take pre-meal drug 30 minutes before meal	80	92.7
7. Take post-meal drug immediately after meal	136	33.2
8. The appropriate storage place for drug	408	99.5
9. Use standard spoon from hospital for measuring	404	98.5
10. Take drugs continuously until course completed	257	62.7
11. Appropriate practice when forgot to take drug	227	55.4
12. Correct amount of drug at each meal	403	98.3
13. Correct number of drug at each meal	405	98.8

The results of the study showed that most of the caretakers (62.4%) had correct answers to 10-12 items of the 13-item questionnaire. None got less than a score of 7.

Table 4.3: Caretakers' total scores for knowledge of drug administration

Knowledge score	Number (n = 410)	Percent
7	9	2.2
8	11	2.7
9	45	11.0
10	83	20.2
11	142	34.6
12	105	25.6
13	15	3.7

The result of the study showed that 54.6% of the caretakers had fairly good knowledge levels for the use of antibiotic drugs. None of them had a poor knowledge level, and a few of them (4.9%) had an excellent knowledge level. The scores were rather aggregated with a standard deviation of 0.77.

Table 4.4: Level of caretakers' knowledge

Knowledge level	Score	Fluency	Percent
Excellent	12-13	20	4.9
Good	10-11	45	11.0
Fairly good	9	224	54.6
Fair/Satisfactory	7-8	121	29.5
Mean = 4.09 ,S.D. = 0.77, Range = 7 – 13			

Section 3 Caretaker's attitude towards administering the antibiotic agent

Examination of the positive attitude questionnaire found that most of the caretakers (98.1%) "strongly agreed" with shaking the bottle before pouring the drug, and that one should administer the drug 30 minutes before a meal, while 97.6% of them "agreed". 23.2% (highest) of the caretakers were uncertain about forgetting to take the antibiotic within 2 hours, which was adjacent to the attitude "disagree", with 24. The highest attitude mean score of 4.83 was for attitude towards shaking the bottle before pouring the drug, and the average mean score for every item was > 3.00.

Table 4.5: Attitude: percent and mean score (n = 410)

Attitude	Percent					Mean
	Strongly agree (5)	Agree (4)	Uncertain (3)	Disagree (2)	Strongly Disagree (1)	
Positive Attitude						
1. Do you agree to shake the bottle well before pouring?	88.3	9.8	0	1.0	1.0	4.83
2. Should not give pre-meal antibiotic after meal?	37.1	49.3	4.9	4.9	3.9	4.11
3.Take pre-meal antibiotic 30 minutes before meal?	34.6	54.9	6.8	3.4	0.2	4.11
4. Do you agree to take the post-meal antibiotic immediately after meal?	10.5	27.6	18.5	38.5	4.9	3.00
5. Take the antibiotic at the same time for every meal.	18.3	65.4	13.4	2.2	0.7	3.98
6. If forget to take the antibiotic within 2 hours, take with another meal.	12.0	35.9	23.2	24.1	4.9	3.26
7. Keep the mixed antibiotic in the refrigerator.	20.2	2.2	11.2	15.9	0.5	3.76

Examination of the result from the negative attitude questionnaire showed that the most of the caretakers (84.6%) strongly disagreed with the attitude of taking more antibiotic drug if the child recovered very slowly. 45.4% of them strongly agreed to the attitude of mixing the antibiotic drug with warm water being better than cooled boiled water. 11.7 % of them were uncertain about that item. Although 15.1% of the caretakers strongly agreed and agreed with the attitude toward the item "Do you agree to mix the antibiotic agents with warm water for better quality?", still, 24.9% of them were uncertain about that item. The highest mean score of the attitude toward "Take more antibiotic drug if the child recovers very slowly" was 4.02, and the lowest mean score was 2.91 for the item "Do you agree mixing the antibiotic drug with warm water is better than cooled boiled water.

Table 4.6: Attitude: percent and mean score (n = 410)

Attitude	Percent					Mean
	Strongly disagree (5)	Disagree (4)	Uncertain (3)	Agree (2)	Strongly agree (1)	
Negative						
1. Do you agree mixing the antibiotic with warm water is better than cooled boiled water?	13.4	29.5	11.7	25.6	19.8	2.91
2. Do you agree to give the drug more often if the child gets better very slowly.	13.2	60.5	12.7	8.0	5.6	3.68
3. Do you agree to mix the antibiotic with warm water for better quality?	18.5	41.5	24.9	11.0	4.1	3.59
4. Stop taking the antibiotic immediately the child recovers	12.4	38.3	10.7	30.5	8.0	3.17
5. Take more antibiotic if the child recovers very slowly	22.4	62.2	9.3	5.1	1.0	4.02
6. Use the standard spoon from the hospital to measure the same quantity every time	20.0	51.5	15.9	6.8	5.9	3.73

Section 4 Caretaker's behavior in relation to administering the antibiotic agent

The result of the behavior study showed that, for the item "Keep the antibiotic away from the heat", most of the caretakers (97.8%) did all the time, and mostly did. For the item "Continue drug administration until course complete", 65.4% did all the time and mostly did, and for the item "Use the same amount of drug even if the children are not getting better", 77.6% did all the time and mostly did. The mean scores for these items were also low at, 3.63, and 4.10, respectively. 19.3% of the sample had never continued drug administration until the course was complete.

Table 4.7: Behavior: percent and mean score (n = 410)

Behavior	Percent					Mean
	Do all the time (5)	Mostly do (4)	Occasionally (3)	Rarely (2)	Not do (1)	
1. Use cooled boiled water to mix the antibiotic	78.5	14.4	0.2	3.4	3.4	4.61
2.Continue drug administration until course complete	44.4	21.0	7.6	7.8	19.3	3.63
3. Use same amount of drug even if child is not getting better	55.4	22.2	7.8	5.9	8.8	4.10
4. Give antibiotic to child every 4 hours	61.2	22.4	6.3	4.4	5.6	4.29
5.Keep antibiotic away from light	81.0	15.1	2.2	0.2	1.5	4.74
6. Keep antibiotic away from heat	90.5	7.3	1.0	1.0	0.2	4.87
7. Use the standard spoon from the hospital to measure the same quantity every time	80.5	14.9	0.2	1.5	2.9	4.69
8. Shake bottle before pouring	86.8	9.3	2.7	0.2	1.0	4.81
9. Mix antibiotic with water using exact ratio	85.4	13.4	0.7	0	0.5	4.83
10.Take pre-meal or post-meal drug as per prescription	89.5	8.8	1.5	0	0.2	4.87
11.Read label before drug administration	83.7	13.4	0.7	0.2	2.0	4.78
12.Take pre-meal drug 30 minutes prior to meal	74.1	20.5	3.4	0.7	1.2	4.66
13.Take antibiotic with another meal if forget to take it within 2 hours	50.2	20.7	7.6	10.5	11.0	3.89

Section 5 Relationships between population factors and knowledge and attitude

The result of analyzing the correlation between personal characteristics and knowledge level of the sample revealed that the caretakers aged 20-39 years had good and excellent levels of knowledge about using antibiotic drugs. None of them had low-level knowledge. Most of the sample in all age groups had good and excellent knowledge levels. The samples with status 5 had excellent knowledge levels. The sample group of single persons had better knowledge levels than the widowed/divorced/separated group, but very few were found. For education level, it was found that the higher the level of education, the higher was the knowledge of using antibiotic drugs. No sample with vocational education or bachelor degree had fair knowledge, and 94.4% of vocational education, 93.7% of bachelor degree or

higher tended to have good and excellent knowledge levels for the use of antibiotic drugs. Most of the caretakers who were government and company employees had good and excellent knowledge levels. The highest number (28.6%) of those who were business owners had fair and fairly good knowledge levels of antibiotic drug use. Caretakers with incomes between 3,001-12,000 Baht had similarly good and excellent knowledge levels, at 88.4, 84.3 and 8.5%, respectively. Very few of the sample had 1, 7, and 8 family members.

Table 4.8: Relationship between characteristic and knowledge level for use of Antibiotics

Characteristic	Knowledge level			
	Fair	Fairly good	Good	Excellent
Age				
10-19	5.6(1)	16.7(3)	44.4(8)	33.3(6)
20-29	6.9(11)	13.8(22)	53.5(85)	25.8(41)
30-39	2.1(4)	9.0(17)	58.5(110)	30.3(57)
40-49	11.4(4)	2.9(1)	37.1(13)	48.6(35)
50-59	0(0)	0(0)	100(2)	0(0)
≥60	0(0)	25.0(2)	75.0(6)	0(0)
Marital Status				
Single	0(0)	9.4(3)	59.4(19)	31.3(10)
Married	5.2(19)	11.4(42)	53.3(196)	30.2(111)
Widowed/divorced/ Separated	10.0(1)	0(0)	90.0(9)	0(0)
Education				
<Primary school	33.3(4)	0(0)	58.3(7)	8.3(1)
Primary school	2.9 (3)	13.3(14)	66.7(70)	17.1(18)
Secondary school	8.3(8)	12.5(12)	40.6(39)	38.5(37)
High school	4.4(5)	12.4(14)	55.8(63)	27.4(31)
Vocational education	0(0)	5.6(2)	61.1(22)	33.3(12)
≥Bachelor degree	0(0)	6.3(3)	47.9(23)	45.8(22)

Table 4.8: (Continued)

Characteristic	Knowledge level			
	Fair	Fairly good	Good	Excellent
Occupation				
Housekeeper	3.4(2)	23.7(14)	40.7(24)	32.2(19)
Wage earner	4.1(4)	3.1(3)	72.2(70)	20.6(20)
Business owner	7.7(7)	20.9(19)	36.3(33)	35.2(32)
Government employee	0(0)	1.9 (1)	51.0(26)	47.1(24)
Company employee	22.2(2)	0(0)	33.3(3)	44.4(4)
Agriculture	4.9(5)	7.8(8)	66.0(68)	21.4(22)
Total income(Baht)				
<3000	10.0(2)	10.0(2)	13(10.0)	15.0(3)
30001-6000	1.4(2)	10.1(15)	61.4(91)	27.0(40)
6001-9000	1.1(1)	14.6(13)	56.2(50)	28.1(25)
9001-12000	7.7(2)	3.8(1)	46.2(12)	42.3(11)
12001-15000	14.8(9)	16.4(10)	42.6(26)	26.2(16)
>15001	6.1(4)	6.1(4)	48.5(32)	39.4(26)
Members (Persons)				
1	100.0(0)	0.0(0)	0.0(0)	1.0(0)
2	7.1(1)	28.6(4)	57.1(1)	7.1(1)
3	4.8(4)	4.8(4)	54.8(46)	35.7(30)
4	7.7(12)	7.7(12)	60.3(94)	24.4(38)
5	2.1(2)	14.6(14)	51.0(49)	32.3(31)
6	0.0(0)	17.0(8)	38.3 (18)	44.7(21)
7	0.0(0)	0(0)	100.0(3)	0.0(0)
8	0.0(0)	33.3(3)	66.7(6)	0.0(0)
Children under care				
1 child	4.9(14)	10.5(30)	53.7(154)	31.0(89)
2 children	4.9(6)	12.2(15)	56.9(70)	26.0(32)

Very few of the sample had fair attitude levels. 80%, who had excellent attitude levels. were caretakers aged 40-49 years. Secondly (69.7%) were those aged 30-39 years. The highest numbers (63.9%) of samples with good attitude levels were married. The samples with higher education levels had good and excellent attitude levels. Excellent attitude levels were found in the bachelor degree group, and the total attitude level between good and excellent was also found in this group. Most of sample group of all occupations had good and excellent attitude levels. The highest number caretakers with fairly good and good attitude levels had total monthly incomes of 9,001-12,000 Baht. The decline in fairly good attitude level was consistent with the rise in excellent attitude level. Very few samples had 1, 7, or 8 family members. 76.6%, being families of 6 members, had the highest attitude level, which was adjacent to families of 3 members (75.0%). 96.5% of the caretakers who were mothers and fathers had fairly good and good attitude levels. Caretakers responsible for 1 and 2 children had fairly good and good attitude levels, but caretakers responsible for 2 children had a higher number of excellent attitude levels.

Table 4.9: Relationship between characteristic and attitude level

Characteristic	Attitude level			
	Fair	Fairly good	Good	Excellent
Age				
10-19	0(0)	16.7(3)	83.3(15)	0(0)
20-29	0(0)	34.0(54)	65.4(104)	0.6(1)
30-39	0.5(1)	29.8(56)	63.8(120)	5.9(11)
40-49	0(0)	20.0(7)	65.7(23)	14.3(5)
50-59	0(0)	50.0)	50.0(0)	0(0)
≥60	0(0)	37.5(3)	62.5(5)	0(0)
Marital status				
Single	0(0)	12.5(4)	75.0(24)	12.5(4)
Married	0.3(1)	32.3(119)	63.9(235)	3.5(13)
Widowed/divorced/ separated	0(0)	10.0(1)	90.0(9)	0(0)
Education				
< Primary school	0(0)	66.7(8)	33.3(4)	0(0)
Primary school	0(0)	28.6(30)	70.5(74)	0.9(1)
Secondary school	1.0(1)	38.5(37)	55.2(53)	5.2(5)
High school	0(0)	32.7(37)	67.3(76)	0(0)
Vocational education	0(0)	19.4(7)	80.6(29)	0(0)
≥Bachelor degree	0(0)	10.4(5)	66.7(32)	22.9(11)
Occupation				
Housekeeping	0(0)	28.8(17)	71.2(42)	0(0)
Employment	1.0(1)	27.8(27)	71.1(69)	0(0)
Business owner	0(0)	25.3(23)	67.0(61)	7.0(7)
Government employee	0(0)	17.6(9)	70.6(30)	11.8(6)
Company employee	0(0)	22.2(2)	77.8(7)	0(0)
Agriculture	0(0)	44.7(46)	51.4(53)	3.9(4)

Table 4.9: (Continued)

Characteristic	Attitude level			
	Fair	Fairly good	Good	Excellent
Total income(Baht)				
<3000	0(0)	45.0(9)	55.0(11)	0(0)
30001- 6000	0(0)	28.4(42)	69.6(103)	2.0(3)
6001- 9000	1.1(1)	34.8(31)	64.0(57)	0(0)
9001-12000	0(0)	23.1(6)	69.2(189)	7.7(2)
12001 -15000	0(0)	37.7(23)	55.7(34)	6.6(4)
>15000	0(0)	19.7(13)	68.2(45)	12.1(8)
Family members(persons)				
1	0(0)	100.0(1)	0(0)	0(0)
2	0(0)	28.6(4)	64.3(9)	7.1(1)
3	0(0)	25.0(21))	73.8(62)	1.2(1)
4	0(0)	33..7(52)	61.6(98)	5.6(9)
5	1.0(1)	35.4(34)	58.3(56)	5.2(5)
6	0.0(0)	23.4(11)	68.1(32)	8.5(4)
7	0.0(0)	33.3(1)	66.7(2)	0(0)
8	0.0(0)	0.0(0)	100.0(9)	0.0(0)
Relationship				
Parents	0.3(1)	31.7(116)	64.8(237)	3.3(12)
Relative	0.0(0)	20.0(8)	67.5(27)	12.5(5)
Baby sister	0.0(0)	0.0(0)	100.0(4)	0.0(0)
Number of children				
1 child	0.3(1)	30.7(88)	65.9(189)	3.1(9)
2 children	0.0(0)	29.3(36)	64.2(79)	6.5(8)

Section 6 Relationship between knowledge and behavior.

The result of analyzing the correlation between knowledge level and behavioral level revealed that the caretakers with fair and fairly good knowledge levels had no excellent behavioral level for using antibiotic drugs. However, the sample with fairly

good knowledge level had a higher behavioral level than those with a fair knowledge level. At the good knowledge level, it was found that the excellent behavioral level was increased; however, caretakers who had excellent knowledge levels also had excellent behavioral levels.

Table 4.10: Relationship between knowledge level and behavior level

Knowledge level	Behavior Level (100 percent) chi square = 0.000		
	Fairly good	Good	Excellent
Fair	4.4(18)	0.5(2)	0.0(0)
Fairly good	4.4(18)	6.6(27)	0.0(0)
Good	15.4(63)	38.4(157)	0.7(3)
Excellent	6.1(25)	20.0(82)	3.4(14)

Section 7 Relationship between attitude and behavior.

The result of analyzing the correlation between the attitude and behavioral levels of the caretakers revealed that those with good and excellent attitude levels did not have fairly good behavioral levels. Moreover, as the attitude level moved higher, from good to excellent, the good behavior level decreased, while the excellent behavioral level increased.

Table 4.11: Relationship between attitude level and behavior level

Attitude level	Behavior Level 100 percent chi square = 0.003		
	Fairly good	Good	Excellent
Fairly good	0.9(4)	14.9 (61)	14.4 (59)
Good	0.0(0)	28.6(117)	36.9(151)
Excellent	0.0(0)	0.5(2)	3.7(15)